



INFORMATION SOCIETY: AGENDA FOR ACTION IN THE UK

GOVERNMENT RESPONSE TO THE REPORT BY THE HOUSE OF LORDS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

*Presented to Parliament by the President of the Board of Trade
by Command of Her Majesty
November 1996*

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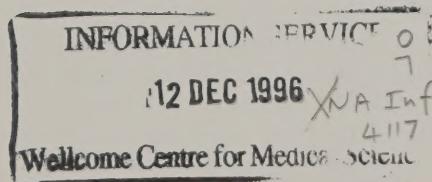
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The House of Lords Select Committee on Science and Technology published its fifth report in the 1995-6 session, on the Information Society, on 23 July 1996. The report, subtitled "Agenda for Action in the UK", contained forty recommendations for action to promote the development of the Information Society. Following detailed consideration by the Government Departments and Agencies with responsibilities in this area, this document sets out the Government's considered response to the Select Committee's recommendations, and describes action it is undertaking in this important sector of the UK economy.

The Government very much welcomes the Committee's close interest in the development of the Information Society in the UK. The Government has an important role in researching into, and promoting awareness of, the potential opportunities and risks of the Information Society. The Government has therefore put in place a comprehensive strategy, through the cross-Departmental Information Society Initiative (ISI), with the aim of placing the UK among the leading nations in the world in the development of the Information Society. The ISI includes a wide range of programmes and activities in support of business, in the field of education, proposals for the electronic delivery of Government services, and a major forthcoming initiative, IT for All, to increase public awareness and use of information and communication technologies. Taken together, these various activities will help enhance the skills base of the UK, increase the competitiveness of UK firms, and improve the quality of life for all in the UK. Individual ISI activities are discussed, where relevant, in response to the Select Committee's specific recommendations below.

This response has also been published on the Internet, and can be accessed via the DTI's World Wide Web site, at WWW.dti.gov.uk.

6.1

The results of the Cabinet Committee GEN 37's work should be given a higher profile, as should the role of its chairman. GEN 37 should produce and publish regular policy reports.

The establishment of the Ministerial Group on Information Technology (GEN 37) was announced by the Prime Minister and widely reported. The Prime Minister made clear that the Government intends to strengthen stimulus and co-ordination within and beyond Government to enable the UK to derive maximum benefit from the new technology.

Questions of Procedure for Ministers makes clear why the principle of collective responsibility requires Ministers to preserve the privacy of Cabinet business. In line with this there is a presumption that the release of information relating to the proceedings of Cabinet or Cabinet Committees would be harmful to the public interest. Nevertheless, the Select Committee is aware that the Government has in hand a number of initiatives to ensure that developments in information technology are exploited to the full in the national interest. When it is ready to do so, the Government will publish policy announcements and report on these developments. It will also publish the facts and the analysis of the facts relevant to the framing of such policy proposals and decisions, in line with the Code of Practice on Access to Government Information.

6.2

The Central Information Technology Unit should involve all Government Departments and Agencies and local government authorities in a nation-wide survey of the possible benefits and disbenefits of developing a National Information Infrastructure and its applications in the UK.

The UK already has a world-class communications and information infrastructure, which will continue to develop both nationally and supranationally, driven by the stimulus of the market, and the competitive impact of many different players.

The Government's role lies in researching into and promoting awareness of potential opportunities and risks of the Information Society as a whole, rather than the infrastructure which supports it. The Government's comprehensive strategy in this area is already being implemented through the Information Society Initiative (ISI), a cross-Governmental initiative which brings together the wide range of Departmental programmes and projects.

Within this, the Information Society Initiative for business, for example, aims to raise awareness, spread best practice, and demonstrate the practical benefits of adopting new technologies, as well as to support the development of new technologies and applications. It brings the existing and new DTI support programmes in the field of information and communication technologies together into a coherent whole. The ISI for business is a four year programme through to the year 2000, and is intended to develop over this period in response to changing market conditions and the needs of business.

In education, the UK Education Departments jointly issued a consultation document "Superhighways for Education" in 1995. This sought the views of the education service and industry on the development of networked communications for education, and challenged industry to pilot relevant technologies in schools and colleges. Building on this consultation, the Education Departments subsequently set out the priorities for the development of education superhighways and outlined action for Government, industry and the education service. Superhighways for Education: The Way Forward also announced a programme of projects piloting intermediate and broadband technologies in education, to be independently evaluated during 1996 and early 1997. The Education Departments' Superhighways Initiative (EDSI) now includes 25 projects, involving nearly 1000 schools and 50 colleges of further education. The outcomes of the evaluation will be published in 1997 and will inform the development of policy and practice in this key area.

The Government will be launching a programme "IT for All", aimed at familiarising those who are unlikely to benefit from these and other existing schemes in December this year. This project aims to give the public an opportunity to experience the new technology – in schools, libraries and in shops, so as to bring home to everyone the potential of information and communication technology, and the ways in which it might affect them and their families.

The Government is looking at ways of taking forward this project as a partnership between central and local government, private sector, and voluntary sector organisations. We want to use the partnership to build positive, well-informed public attitudes to the Information Society, particularly among those who have little or no contact with interactive applications at present.

This will be the most ambitious programme of its kind ever attempted in a major nation. It will raise public awareness of the benefits of the new technology and of the many ways in which it can already be used to improve the quality of daily life. It will also help expand the market for development of new and more sophisticated applications of the new technology, keeping the UK at the forefront of its adoption.

The Central Information Technology Unit (CITU) was established in order to ensure that the latest technology is harnessed to improve co-ordination across Government, and to facilitate the effective delivery of services to the public. The much wider issue of a National Information Infrastructure is clearly outside CITU's remit.

6.3 – 6.5 *To assist the chairman of GEN 37, and to encourage a nation-wide debate on the creation of an Information Society, the Government should appoint a UK Information Society Task Force (ISTF) by the end of 1996. Its two main functions should be to act as a think tank to Government, and to ventilate views on the creation and development of the UK Information Society. The ISTF should have the task of identifying barriers to the development of the UK Information Society, and recommend the appropriate remedies. One of its first jobs should be to draw up a policy document setting out its advice to the Government for a UK agenda for action, involving both the private and the public sector.*

The ISTF should be chaired by an enthusiast. Its members should be drawn from government (including regulatory bodies), industry, commerce, consumer and academic interests. Since the development of the Information Society should be a national objective, the Task Force should represent the full diversity of interests, expertise and opinions across society as a whole.

ISTF reports should be made public, and should be presented to Parliament as well as to the Cabinet Committee. Information about the activities and publications of the ISTF should be made available on a widely-publicised site on the World Wide Web. This should include an e-mail address encouraging citizens to participate in a nation-wide debate on the shaping of a UK Information Infrastructure. It should include links to other key web pages, so that, for example, a teacher could use the ISTF site as an easy access point for specialist advice on in-service training, IT applications, assistance available from charitable bodies, etc.

The Government has considered very carefully the Committee's proposals for an Information Society Task Force (ISTF). As the Committee is aware, however, much work on various aspects of the Information Society is already underway under the auspices of a variety of bodies, which between them fulfil much of the role envisaged by the Committee for an ISTF.

On balance, the Government has concluded that it would not be desirable for the current arrangements to be supplemented or replaced by an ISTF. The danger of such an approach is that it would suggest a top-down culture to the Information Society, by placing a single group of people, however eminent or representative, in the position of setting out an all-encompassing master plan for the Information Society in the UK. The Government doubts that this would be the best way to harness innovation in the public and private sectors. The present arrangements, involving GEN 37, which co-ordinates information technology across Government, the Multi Media Industry Advisory Group (MMIAG), the National Information Infrastructure Task Force (NIITF), the Technology Foresight Panels and other relevant committees reporting to Ministers, provide a useful diversity of input, and combine to form a coherent and balanced approach to the development and implementation of issues relevant to the development of the Information Society.

For example, the work of the MMIAG is very much in tune with some of the key tasks envisaged by the Committee for an ISTF. Its objective is to provide strategic, high-level advice on the

technological and commercial changes shaping the development of multimedia and on the implications these hold for industry, Government and other parts of the public sector. It acts as a sounding-board for Government and as a source of new ideas and perspectives. The main emphasis has been on identifying opportunities presented by multimedia, obstacles that need to be overcome and specific steps that can be taken by Government, industry and the sectors concerned.

The MMIAG is chaired by Mr Ian Taylor, the Minister for Science and Technology, whose knowledge of the Information Society and enthusiasm for its successful early development in the UK is well known. Its membership includes senior industrialists from the publishing, IT and communications sectors, together with experts from the health and education sectors, leading academics, the Director General of Telecommunications, the Director of the Central IT Unit and Ministers from the Department of National Heritage and the Office of Public Service, ensuring a broad spread of experience and opinion. The MMIAG has already published a series of reports on the evolution of the Information Superhighway, about multimedia aspects of intellectual property rights, technical standards and interoperability, health, and education.

A group which provides a more industry-centred focus is the National Information Infrastructure (NII) Task Force, which was set up to help society at large realise the benefits of digital technology. This was formed in response to a challenge to the information and communications industries to devise initiatives to help the UK move into the digital age. It has been driven since inception by the Federation of Electronics Industry (FEI), and representatives from companies in electronics, information technology, communications, content and publishing, and has been joined by the Computing Services and Software association on certain initiatives. The group has wide experience of promoting the use of on-line communications, having launched, in concert with the DTI, initiatives such as Schools Online, Industry Online and Community Online.

The IT, Electronics and Communications Technology Foresight (ITEC) Panel provides insights into trends in markets and in science, engineering and technology, and the opportunities that these present. It brings together senior industrialists and academics, scientists and engineers, to identify how the UK can best take advantage of the markets and technologies likely to emerge over the next 10 to 20 years. The panel plays an advisory role to Government, informing spending decisions, and also to industry, in particular to small and medium sized enterprises which do not have the resources to undertake their own strategic assessment. The Leisure and Learning, Financial Services, Health and Life Sciences and Retail and Distribution Technology Foresight panels have also contributed to the assessment of the future use of communications and information technologies and infrastructure.

Also important are the Library and Information Commission, which advises all Government Departments on library and information matters and is currently developing a national information strategy; and CITU, which was established in order to ensure that the latest technology is harnessed to improve co-ordination across Government and to facilitate the effective delivery of services to the public.

These and other relevant bodies comprehensively cover the various aspects of information and communications technology, and the Government values the diversity of opinion which the differing perspectives of each can offer.

6.6 *Specific public sector infrastructure targets for the UK, for example for connecting all schools to the Internet, and all GP practices to their local hospitals, should be agreed between Government and the private sector. The ISTF should play a crucial role in proposing and monitoring the delivery of policy objectives, thus helping and stimulating GEN 37 to deliver the necessary decisions in government.*

The Government sees its role in promoting the development of the Information Society as providing a stable regulatory environment to encourage infrastructure investment, and promoting awareness of the opportunities and risks it presents. The Deputy Prime Minister has announced

plans to earmark £300 million of lottery money per year, following the completion of the millennium projects, to create a new Information and Communication Technology fund. This will allow greater numbers of people than ever before to experience the benefits of information and communication technology, for example through schools, colleges and libraries.

It will ultimately however be the competitive impact of many different players which drives the Information Society in the UK. It is for budget holders in public bodies and institutions to judge whether the benefits of these services merit their participation, given the many competing priorities for effort and resources which these institutions face. It would not be appropriate for central Government to set targets in these areas, given that central Government has quite properly devolved decisions over spending and resource use to more local management.

For example, the NHS Information Management and Technology Strategy (IM&T), launched in 1992, established an NHS-wide intranet (NHSnet). This will enable GPs to make referrals and book hospital appointments on-line, provide access to information libraries and electronic books, and facilitate the dissemination of new health warnings. More than 700 organisations are already connected, and we expect all Health Authorities and NHS trusts to be connected within the next 12 months. Demand for the service has stimulated provision, and the DoH will continue to promote the uptake of these services.

6.7 *The restrictions on telecommunications companies either conveying or providing broadcast entertainment services in their own right should be reviewed as a matter of urgency, with the aim that both reviews should be completed by 1998. Full competition should be allowed from 2001.*

The Government rejects this recommendation. The Government's consistent policy of promoting effective competition in communications networks has been highly successful in terms of providing UK consumers with a greater choice of high-quality services, at competitive prices. This has involved the Government developing and maintaining a stable and effective regulatory framework. The objective is to provide the economic benefits of competition, and to allow maximum opportunity for rapidly developing technology to be deployed in emerging markets by a wide variety of competing players. New communications technology and services require very considerable sustained investment by companies involved in this market. Investors must have confidence that successful long-term investment will be rewarded appropriately, and maintaining this confidence is an important regulatory objective.

In order to realise the benefits for consumers, the Government gave clear commitments in 1991 to long-term regulatory stability on its cable franchise policy. The direct result of these has been to encourage local cable operators to build their networks, providing local competition in communications services. This is a capital-intensive exercise. The Government's 1991 commitments, that the policy on existing Public Telecommunications Operators conveying entertainment services nationally to homes would not be reviewed before 1998, and that the policy on provision would not be reviewed before 2001, have given UK cable franchisees the confidence to bring forward investment of over £12 billion in new cable networks this decade. The billions of pounds of further investment needed by the UK cable franchisees would be put at risk if the 1991 White Paper framework was not maintained.

BT has had and continues to have the same opportunities as all other companies to provide simultaneous broadcast entertainment, by holding individual local franchises. BT can also provide simultaneous broadcast services to business customers, and to public institutions such as schools, universities, hospitals and libraries, and it can provide interactive on-demand services to all customers.

The Government remains of the view that the regulatory framework set out in the 1991 White Paper, which provides certainty for all participants in the market, with clear dates for reviews of the present regime, is valid. To change the framework in advance of the timescale set by the 1991 White Paper would compromise the Government's integrity, given that billions of pounds have

been invested on the basis of these commitments. It would undermine the confidence of companies in many other sectors of the UK economy, including important inward investors, in the reliability of Government statements of policy on which major investments are based.

6.8 *A new regulatory framework for both telecommunications and broadcasting will be needed by 1998, distinguishing between issues related to competition in the provision of networks and services, and issues relating to competition.*

Technological convergence between broadcasting, telecommunications, electronic publishing and information technology is leading to the development of a wide range of multi-media products and services. This will increase when all these sectors become fully digital. At present however, commercial integration of companies operating in these previously distinct sectors remains at an early stage.

The Government is determined that the UK should gain the maximum economic benefit from increasing convergence. The Government therefore agrees in principle with the Committee that a new regulatory regime for both telecommunications and broadcasting will, in the medium term, be appropriate. But it is important not to second-guess technological and commercial developments; convergence is at an early stage, and the Government will keep market developments under review.

The Government agrees with the Committee that distinguishing between issues which relate to the economic relationships involved in network and services on the one hand, and content issues on the other, will continue to be important. However, distinguishing these is not necessarily straightforward in practice. An issue relating to economic regulation may importantly affect content, and vice versa. The existing regulators are aware of these interactions.

6.9 *The Internet Service Providers' Association should implement a Code of Practice covering the problem of unacceptable content, including racist and anti-Semitic material, in the Internet.*

The Government very much agrees with the proposal in this recommendation. Since the report was published, DTI officials have worked to bring together the relevant industry and Government bodies, with the result that the two major UK service providers associations, the Internet Service Providers Association (ISPA) and the London Internet Exchange (LINX), have endorsed industry proposals to combat illegal material on the Internet.

The proposals include an undertaking by UK Internet service providers to enforce the removal from their servers of any material which is positively identified to them as being illegal. A hotline will also be established by the newly-founded Internet Watch Foundation, to which Internet users can report instances of material which they consider may be illegal. The Foundation will then verify whether the material in question is in fact illegal, and where this is the case, contact the service provider who will request its removal. In cases of non-cooperation by the publisher, the service provider will enforce removal of the material, and details will be passed to the Police. The Foundation will initially concentrate its efforts on the elimination of child pornography, as one of the worst types of illegal material on the Internet, but the approach will extend to all types of illegal material.

The basis for these proposals is that existing law applies on line as it does to other media. Internet service providers have a liability in law for material which they host on their servers, and it is therefore in their best interests to ensure that illegal material is removed. Service providers who co-operate with the proposals will reduce their risk of prosecution, by demonstrating that they have done all that can reasonably be expected to comply with the law.

We are already seeing promising first results from efforts to promote the approach within the European Union, and wider afield.

Copies of the proposals have been placed in the House of Lords library, and are also available on the DTI's Web site.

6.10

The Independent Committee for the Supervision of Standards of Telephone Information Services should be used as a model for consumer protection in Internet-based and other similar services.

The Independent Committee for the Supervision of Standards of Telephone Information Services (ICSTIS) differs from the Internet Watch framework. Telephone network operators may only convey what are described as controlled services where, at the time, there is in force a code of practice governing the provision of such service and recognised by the Director General of Telecommunications after consultation with the network operator and representatives of those wishing to provide the services*. Such a requirement is not paralleled in the Internet Watch proposals because the latter are built already on the framework of existing law. The advantage of the Internet Watch approach in terms of Internet regulation is that it is more flexible, as is clearly necessary in dealing with such rapidly developing technology. Also, because Internet Watch is a self-regulatory approach built on existing legislation, it is potentially extensible internationally without the need for time-consuming and complex new legislation in each country. This is fundamental to hindering the use of the Internet for illegal purposes, given the ease with which material can be passed electronically across borders.

*This is condensed from Condition 33A of BT's licence, which contains the definition of controlled services.

6.11

The Government should express its support for the Platform for Internet Content Selection as an industry standard.

The Government welcomes the Committee's endorsement of the Platform for Internet Content Selection (PICS), which it firmly supports as an open, cross-industry standard. The endorsement and promotion of PICS is a key component of the Internet Watch approach. As a cross-industry, international standard, PICS provides the means to support a range of different classification schemes. This means parents and guardians can exercise individual choice in selecting the standards which they feel are appropriate for themselves and their families.

The Government stresses the positive role that filtering software using PICS technology can play in making the Internet a safe and secure place in which to work, learn and play, while supporting the Internet's traditions of diversity and free speech.

6.12

Pilot projects, such as the Cambridge Childcare Project, should be developed by public-private partnerships with a view to placing a "front end" across the vertical divisions of government departments, thereby creating a virtual "one-stop-shop" for those seeking information

The Green Paper on the Electronic Delivery of Government Services, published on 6 November, considers the development of a "one stop shop" in its vision for the future use of IT by Government.

6.13

The Department of Trade and Industry should develop a Content Foresight Initiative as part of its Technology Foresight programme.

The Government agrees with the Committee's assessment of the importance of content foresight. The Technology Foresight programme itself identified the importance of promoting the development of information businesses, in particular encouraging the use of digital media and communications by the content-producing sectors. This is being addressed, at least in part, through the cross-Government Information Society Initiative. There are also a number of other actions in train, supported by the DTI and other bodies, to promote the development of content-producing industries:

- The National Creative Technologies Initiative is a consortium led by the National Film and TV School and the Universities of Bristol. It is designed to bring together artists and technologists to maintain and expand the UK's position in the world in creating quality film, video and television and innovative computer products and services, building on existing strengths to

revolutionise leisure, learning and business in the digital media age. The £9 million project is being supported under the DTI's Foresight Challenge.

- The IT, Electronics and Communications (ITEC) Foresight Panel and the Leisure and Learning Panel, in partnership with DTI, are preparing a workshop, planned for 2-3 December, that will bring together leading creative artists and technologists:
 - (a) to help build a national creative arts and technology community;
 - (b) to demonstrate the current situation in the use of technology (the state of the art);
 - (c) to identify the organisation and structure needed to underpin and motivate the community;
 - (d) to give the opportunity for key people to shape the creative media culture in the UK.
- The ITEC and Health and Life Sciences Panels are organising a "brainstorming workshop" to identify barriers to the better use of information throughout the health care community.
- The Technology Foresight programme is currently planning for its next phase of activity and is developing plans for a cross-sectoral theme on "ITEC into Everything". This will look at the effects of ITEC on businesses in non-ITEC sectors, including the content-producing industries, and suggest a range of new opportunities likely to arise.

6.14

All Government publication providing information of widespread interest to citizens should be made available free of charge in electronic form. The Government should set all Departments and Agencies minimum standards for the electronic publication of information.

The Government agrees that wide use should be made of electronic formats to make official information of general public interest as widely available as possible. Indeed a vast amount of data is already available free of charge on the CCTA's multiple award-winning Government Information Service on the Internet (at www.open.gov.uk), which provides access to information from nearly 400 public sector organisations. The Official Reports of both Houses of Parliament, together with various other House documents, are also available on the Internet, Hansard for each day's sitting being made available on the following day, at www.parliament.uk.

However, the Government considers that decisions on what information should be selected to be placed on line are best left to individual Departments and Agencies. Each Department and Agency has to judge which published items, among the huge quantities of data made publicly available, will be of widespread interest and which, for example, will by contrast be of narrower commercial value. It follows that the Departments and Agencies themselves must decide what material has the requisite public interest to warrant making it available free of charge in electronic form.

The Government agrees that the highest standards should be maintained for the presentation, accuracy and timeliness of electronic publications, but again, individual Departments and Agencies are best placed to apply appropriate standards depending on the specific circumstances of their data, and it is in their own best interest to maintain the highest possible quality control of their products. The Government encourages Departments and Agencies to make good quality information available to citizens and businesses and will revise existing advice when necessary to promote this objective.

The Green Paper on the Electronic Delivery of Government Services also contains detailed discussion of options for facilitating electronic access to Government information and services.

6.15

All Government Green Papers should be available for consultation electronically.

The Government is sympathetic to the arguments about the importance of widespread access to

official information which underlie this recommendation. As has been noted, a very large amount of such information is already available electronically. However, the issue of systematic publication of command papers is currently being addressed in the context of the Government's consideration of the future management of Crown Copyright (see 6.16 below).

6.16

The Department of Trade and Industry should establish a Copyright Working Party to examine concerns about the Crown Copyright regime.

The Government is fully aware of the concerns raised by the Select Committee and in the context of its commitments to open government and greater competitiveness it is already actively considering the future management of Crown Copyright.

These considerations will seek to ensure a climate conducive to the growth of new information services both in printed and electronic formats, subject to the continuing need to protect taxpayers' interests. In doing so they will take into account the views of all interested parties, including those in the commercial publishing sector.

6.17

Steps must be taken to limit the development of information "haves", "have nots" and "cannot" in the UK. The ISTF should consider whether the community service requirements in BT's universal service obligation should be extended.

The Government agrees that steps should be taken to ensure that as many people as possible can reap the benefits of the Information Society, and already has a comprehensive strategy in this area, implemented through the Information Society Initiative. As we have noted above, the Government will soon launch a programme aimed at those who are unlikely to benefit from existing schemes.

The Government does not consider that relying on BT alone is an appropriate way forward to ensuring universal service in a liberalised multi-operational environment. OFTEL consulted in December 1995 on future arrangements for universal service. OFTEL is currently assessing the costs associated with serving uneconomic customers and areas, and universal service funding arrangements which may need to be put in place. It is also considering a suitable framework for future decisions on appropriate levels of universal service. OFTEL aims to issue a further consultation document on its proposals in the near future.

As the Committee's report acknowledges, cable companies already cable up schools, colleges, universities and libraries to the Information Superhighway free of charge as their networks are built past them. In terms of this Department's policies and objectives, our stance on this issue is neutral. Cable companies have connected almost 1000 schools to date, and more will be progressively linked to cable as cable operators install their systems.

Following public consultation, the DTI announced plans in February this year for the use of radio spectrum in more rural areas, underlining the Government's commitment to extending the scope of national communications networks. Licences at 2GHz have now been awarded to BT and RadioTEL Systems, a start up company, which will ensure improved access to services in remote rural areas. Mercury Communications, Ionica and Scottish Television and NTL have been awarded licences at 10GHz to extend the choice of small and medium sized business requiring fixed digital services.

6.18

Terminals allowing Internet access should be established in all public libraries and in a variety of other public areas, such as post offices and town halls. The possibility of developing FreeNets run by public/private partnerships, along the lines of the American and Canadian models, should be examined.

The Library and Information Commission, which is tasked with advising Government on library and information matters, is developing a national information strategy based on the use of Information Technology. It is currently promulgating, in partnership with the Library

Association, a Millennium Fund bid entitled "Information for All": a £120 million project for an IT network covering 4,000 public libraries. As well providing a broadband communications network linking each library with others in its area, and to its headquarters library, this will connect every library to the Internet, providing up to twenty five terminals, according to size. If successful, the programme will be completed by the end of 2000.

The forthcoming Public Library Review will also look into the question of providing public Internet access terminals in Public Libraries.

The Government is to announce a new programme aimed at familiarising those who are unlikely to benefit from these and other existing schemes in December this year. This project aims to give the public an opportunity to experience the new technology- in schools, libraries and in shops, and to bring home to everyone the potential of information and communication technology and how it might affect them and their families.

6.19

The Citizens Advice Bureaux should be linked to an on-line database system.

It is clear that Citizens Advice Bureaux could benefit greatly from the establishment development of an on-line database system. Work on the development of such a system, very much in keeping with the Lords' conception, is ongoing.

The National Association of Citizens Advice Bureaux (NACAB) commissioned consultants last year to draw up proposals for an IT Strategy for Citizens Advice Bureaux. The consultants report was presented in February this year and, on the basis of the report, NACAB has agreed to seek implementation of a full IT Strategy for the Service. The Strategy will, *inter alia*, deliver an electronic information service to bureaux, link advisers to expert help, improve telephone access to bureaux, enable the public to help themselves via a direct access database and enable electronic collection of statistical data about the numbers and categories of client problems.

NACAB is currently seeking funding for the project from a number of sources, including public and corporate support. If their financing plans are successful the current intention is to implement the full strategy over a four year period starting in 1997.

6.20

A programme of information-sharing and mutual assistance between Commonwealth countries in developing the use of Information Superhighways should be set up.

The Commonwealth Secretariat is actively considering this recommendation. The Committee has recognised the number of Commonwealth activities which the Government supports, including Commonwealth Scholarships, the Commonwealth Foundation and the Commonwealth Fund for Technical Co-operation. The Commonwealth Secretariat will examine the potential offered by these existing mechanisms for a programme of information-sharing in the development of Information Superhighways.

6.21

Companies nation-wide should support the Free Computers for Education scheme wherever possible, and all Government Departments and Agencies should allow suitable equipment which is no longer needed to be recycled in this way.

The Government notes the Select Committee's recommendation. It is important to ensure that schools in the UK secure the right equipment, support and training for the purpose of delivering the relevant National Curricula, and for administration. In certain circumstances the use of second-hand computing and peripheral equipment by schools may be appropriate. The DfEE is currently investigating the experiences of the schools involved in the pilot of the "Free Computers for Education" scheme. It is however already clear that, before accepting second-hand equipment, schools need to consider a number of factors. These include the capability of the equipment to run an appropriate range of educational software; the acquisition of suitable software and the necessary licences; the total cost of ownership of such equipment, such as additional costs of training and technical support associated with equipment (which may be of a

type not familiar to schools); the provision of compatible peripheral equipment such as printers; and the need for a continuing service of maintenance and support. Schools also need to consider the extent to which equipment may prove able to help deliver multimedia (e.g. CD-ROM), and the potential useful life of the equipment they are being offered, against the hardware specification necessary for new generations of education software coming onto the market.

Current Government advice to schools in the context of networked communications (Superhighways for Education: The Way Forward, paragraph 46) is that they should wherever possible procure equipment sufficiently powerful to cope with the higher rates of data transmission and advances in compression techniques that modern curriculum-relevant software and services will require. Equipment provided under the recent Education Departments' CD-ROM and networking initiatives represents a benchmark specification for current education software, but as software and applications become more sophisticated, equipment requirements will advance.

It is for individual companies and organisations to decide how best to dispose of their surplus equipment. In passing equipment on to schools they will wish to take into account the confidentiality of data stored within the equipment, the transferability of existing software licences, and to consider liability implications in the event of equipment malfunction or accident. Similar considerations apply to government departments and agencies which also need to take into account departmental rules applying to the disposal of assets.

6.22 *All initial teacher training courses should contain an IT module as an essential requirement. The Government should support the development of aids to in-service IT training for teachers, including video and CD-ROM.*

All newly qualified teachers are currently required to demonstrate competence in making constructive use of information technology, amongst other resources. The Teacher Training Agency (TTA), is looking further at means to improve teacher competence in IT, including collaborative work with the National Council for Educational Technology (NCET) to map current initiatives under way in initial teacher training. The TTA is developing national standards for newly-qualified teachers, as part of a national standards framework. These will clarify the competencies required at this level, including IT-related knowledge. Competence in IT will be recorded in teachers' career entry profiles which the Agency is developing. These profiles will identify the key areas for teachers' induction and future training needs.

As regards continuing professional development in IT, the Government is already supporting a range of measures. The TTA is exploring means to help teachers identify their training needs, establish ways of securing the quality of the training required, and help schools to measure the impact in the classroom. IT issues will be taken fully into account in the development of the National Professional Qualification for aspiring Headteachers (NPQH). The TTA is also currently considering its research priorities. These are likely to include the effects of IT on teaching and in particular the use of IT in relation to improving literacy and numeracy. Other initiatives include the use of video through the NCET's series of programmes for teachers delivered through the BBC's night-time transmissions on "The Learning Zone". These have proved popular and well subscribed. The DfEE is currently piloting the use of CD-ROM by teachers as part of a project equipping 1100 teachers with multimedia portable computers with Internet connectivity. The outcomes of this pilot will provide insight into how best teachers can make use of such facilities for training purposes as well as for their classroom work.

6.23 *Out-sourced services for schools, enabling them to pay a fixed, subsidised rate for a level of service including a specified band width and help-desk support, should be developed.*

In conjunction with commercial supply interests, the Government is currently considering a range of models for the provision of IT equipment, services and support for schools in the context of the evaluation of pilot projects under the Education Departments' Superhighways Initiative (EDSI). It is essential to proceed on the basis of informed understanding of the effects of newer

technologies on the delivery of teaching and learning, on school administration and management, and on the longer term implications for school budgets. The outcomes of the EDSI programme will be published next year and can be expected to improve understanding both among commercial suppliers and within the education service.

OFTEL has created a task force to examine, amongst other things, the role of regulation of telecoms tariffs in furthering schools', colleges' and libraries' access to communications networks. This task force has identified no hurdles in existing regulation, and made it clear that usage costs are only one barrier to schools', colleges' and libraries' wider use of networking. It is nevertheless considering how reductions in tariffs to these users might be achieved.

6.24 *The need to develop educational content addressing the British curriculum requirements should be addressed by a targeted R&D programme, for which public funding should be made available to encourage private sector initiatives in this area.*

A range of good quality education software designed for the UK National Curricula already exists, following various DfEE pump-priming initiatives, although there is scope for further development and expansion. This is an area in which the private sector is active. The extent to which further developmental programmes with support from public funds are required will depend on a variety of factors, including the nature of the emerging technologies, the pace at which they develop, and the extent to which schools are able to provide a market place for new generations of software and services. These and other issues are already being assessed as part of the EDSI. The Government will give them further consideration in the light of the evaluation of that initiative.

The joint DTI/industry project Schools Online also aims to enable schools to link up to the Internet, and to research whether this technology can be beneficial to teachers and pupils in delivering the National Curriculum.

Phase one of the project, which ran from September 1995 to July 1996, linked 60 schools to the Internet, focusing primarily on science and modern foreign language. Phase two of the project is currently being developed and aims to address issues which were identified in phase one (e.g. develop teachers' Internet skills). It also aims to enable many more schools to actively participate, and to ensure the dissemination of information to all interested schools.

6.25 *All new school building projects involving classrooms, laboratories or libraries should incorporate the installation of a local area network. Consideration should be given to including a requirement to cable schools in all new licences to cable companies.*

It is for LEAs and grant-maintained schools to decide for themselves what specifications they wish to include in building agreements. Government advice in "Superhighways for Education: The Way Forward" was that in installing internal networks education institutions should ensure that they are of sufficiently high bandwidth or are installed in such a way as to be readily upgradeable. Further advice, based on the practical experiences of the institutions involved in the EDSI programme, will be published next year.

As the Committee's report acknowledges, cable companies already cable up schools, colleges, universities and libraries to the information superhighway free of charge as their networks are built past them. Cable companies have connected almost 1000 schools to date, and more will be progressively linked to cable as cable operators install their systems.

6.26 *Selected schools should keep suitable equipped classrooms open "after hours" to allow homework to be done on site. Special financial provision should be made available to support computer access in after-school clubs, since these are mostly used by poorer households.*

The law gives control of school premises out of school hours to the governing body. It is already open to governors to support after hours homework clubs, or any other activities which they consider are for the purposes of the school, and there are many examples of this.

Although they are required to consider the potential benefits of allowing community use of premises by local people, it is for the governors to decide how to make the best use of their school premises. Many also make their school premises available to the wider community. Some 95% of secondary and 55% of primary schools already chose to accommodate some form of community use. But community use of a school must at least cover its own costs: the governors may not use their budget to pay for non-school activities. In appropriate circumstances governors may however chose to charge some organisations for access and use profits gained to subsidise other community users.

The Education Departments' Superhighways Initiative is currently evaluating after hours use of multimedia computing facilities in schools alongside other models of provision. Results will be published next year.

6.27 *We recommend that a study be undertaken to assess the likely need for business access to SuperJANET, and, if a clear need is identified, that the Department of Trade and Industry and Department for Education and Employment consider funding mechanisms that might be appropriate to permit such access.*

It is already open to business and any other Internet user to gain access to SuperJANET by subscribing to one of the commercial Internet Service Providers. Direct access to SuperJANET is under active consideration by the Joint Information Systems Committee (JISC), where this would increase collaboration between higher education and business outside the research field. Some organisations engaged in collaborative research are already connected. Public funding for SuperJANET (around £8 million in 1996-97) is intended to provide a service to the higher education and research community. Any business connection would have to be on a commercial basis. JISC would of course have to be sure that any access for additional users would not result in any deterioration of service for the HE and research community.

6.28 *UKERNA should take steps to ensure that British academic traffic has sufficient protected international bandwidth to support national research programmes, possible by adopting a similar approach to the US National Science Foundation.*

This recommendation falls within JISC's remit as the body responsible for setting funding levels and policy for networking in higher education. UKERNA is the contractor currently operating the networks.

JISC recognises that there are problems in providing international networking due to enormous demand. International bandwidth is expensive. However, action is being taken to tackle this problem. Plans have been advanced for a new 34 megabits per second (Mbps) link to Europe to be running in early 1997. The EC will match funding provided by the UK and other Member States in the first year. JISC is also considering proposals to institute charging to user institutions as a means of funding improvements to international lines. It is discussing with researchers and the Research Councils how special provision for specific UK research interests might be funded without compromising the comprehensive, pervasive service to the HE and research sector as a whole.

6.29-6.33 The Information Management and Technology Strategy for the NHS in England, launched in 1992, provides amongst other things for the introduction of NHS-wide networking services as part of an IT infrastructure which will support the delivery of improved health care. The examples of specific services listed at 6.29-6.33 below are important elements in the overall strategy and as such will not be wholly practicable until the NHS wide network (NHSnet) is fully taken up. Similarly, it should be recognised that full take up of the network and the rapid development of services and facilities in the IT sector will offer new opportunities in the future which will need to be considered. For such reasons, the DoH will be reviewing the national IM&T strategy in the next 12-18 months, ensuring its continued role in supporting policy objectives.

6.29 *The Department of Health should set in place policy guidelines to encourage the development of facilities for GPs to book hospital appointments on-line. These guidelines should incorporate*

proposals for networking of GP practices, consultants and hospitals within a secure intranet system designed to ensure confidentiality.

The IM&T strategy includes an NHS wide network (NHSnet) which will enable in due course all the elements listed. NHSnet is a secure service. A pilot study of encryption and related services is underway.

6.30 *The Government should legitimise the keeping of medical records uniquely in machine-readable form, subject to strict safeguards concerning security, durability and back-up procedures, by removing the legal requirement for GPs to make records on paper.*

The Department of Health is considering this proposal, which would require amendment of the NHS General Medical Services Regulation 1995, paragraph 36 of Schedule 2. Discussion with the General Medical Services Council are at an advanced stage.

6.31 *The Department of Health should draw up a clear plan of action to fulfil its own estimate that using e-mail for messaging and transmission of forms in the NHS could save at least £100 million a year.*

This is one estimate of the level of savings which could accrue with appropriate take up of NHSnet. Achievement of savings will be dependent on the rate of take up. Progress is already being made with plans for the introduction of links between GPs, Health Authorities and Providers.

6.32 *The standards applying to the security of health related information within the NHS Wide Network should apply equally to local authorities and the private sector.*

The Department of Health is currently conducting a pilot exercise to examine the use of encryption and related services in the NHS. In any event, access to NHSnet is a controlled by a Code of Connection and a Security Manual has already been issued.

6.33 *The use of an NHS intranet to disseminate new health warnings should be investigated.*

This type of service will certainly be possible using NHSnet. The Chief Medical Officer is conducting a trial of the use of NHSnet for urgent communications such as this.

6.34 *The Government should undertake research into the possibility of increasing flexi-working (working from home on certain days), particularly on days when air pollution levels are expected to be high. The Government itself, as a major employer, could take a lead in encouraging this practice.*

The Government is interested in the potential for changes in working and travelling practices to contribute to the continues improvement in air quality. As the draft National Air Quality Strategy makes clear, although the bulk of the reductions in emissions needed to meet our air quality objectives will come from conventional regulatory means, there is scope for a wide variety of supplementary measures – some of which might be designed to change commuting and other travel patterns. The draft Strategy seeks comments on suggestions for achieving such modal shifts.

The Government's Summertime and Wintertime smog leaflets, and press notices on air pollution episodes, do recommend that people avoid the use of their cars whenever possible, during high levels of pollution.

The ISI programme "Computer Supported Co-operative Working", instigated by the DTI, has been examining the implications of working from home. A follow-up programme is currently in development.

6.35 *The use of IT to reduce unnecessary use of paper whilst at the same time increasing efficiency, for example through the use of electronic filing systems, should be encouraged. Again, this is an area in which Government could lead by example.*

The Government agrees that the use of IT to reduce paper consumption can provide not only environmental but also commercial benefits. Much day-to-day Departmental business is already done via E-mail, reducing the need for the transfer of multiple paper copies. The Government's ideas for the electronic delivery of its services will support the streamlining and integration of processes across the organisational boundaries between Government Agencies and Departments, further reducing the unnecessary use of paper.

The third White Paper on competitiveness sets out strong commercial arguments for the adoption of waste-reducing policies, in which information technology clearly has an important role. Specific initiatives on this include supporting local, business-led, green and waste-minimisation clubs to offer SMEs practical help.

6.36 *Electronic publications, which currently attract full-rate VAT in the UK, should be made subject to zero-rate VAT, to put them on a par with printed books and journals.*

VAT was deliberately designed as a broad-based tax on consumer expenditure and, in order to maintain the revenue yield, successive Governments have taken the view that relief from the tax have to be strictly limited. Relief for books, magazines and so on is set out in Group 3 of Schedule 8 to the VAT Act 1994, which provides relief for items such as books, leaflets, newspapers and periodicals.

The words in the zero-rated schedule have always been given their ordinary and everyday meaning by the Tribunal and Courts. A set of Encyclopaedia Britannica is zero-rated because it meets the definition of a book; the same set of Encyclopaedia Britannica conveying the same information but through the medium of (for example) a computer disk or CD ROM would not be eligible for relief from VAT, because the disk or CD ROM is not a "book" by any ordinary definition of the word.

Under EC agreements, while the UK may retain those zero rates it already has, their scope cannot be extended, nor can new ones be created.

6.37 *Legislation should be introduced to extend the principle of legal deposit of publications in certain UK libraries to non-print materials.*

The Government is actively considering the Committee's suggestions. It is currently undertaking detailed work on the British Library's proposals for extending legal deposit of publications not only to electronic publications such as CD-ROMs, but to other non-print materials such as sound recordings and film. The Government would consult widely before bringing forward legislation.

6.38 *Strong, end-to-end encryption must be opened up to business and commercial users as quickly as possible, subject to certain safeguards. We therefore welcome the Government's announcement on 10 June 1996 proposing the licensing of Trusted Third Parties.*

The Government welcomes the support shown for its major policy initiative on encryption. Officials within the Department of Trade and Industry are currently drafting the detailed policy clauses on which the future legislation (to license Trusted Third Parties) will be based. We intend to consult industry on these detailed policy proposals before the end of the year.

At the same time officials are engaged in a detailed dialogue with colleagues in other EU Member States, and with member countries of the OECD, to try to formulate international standards and procedures that will facilitate the international working of Trusted Third Party services. In this respect the DTI is playing a leading role in the current OECD discussions on the formulation of Cryptography Guidelines which will, hopefully, promote the Government's approach.

The Government must join with other EU Member States in putting pressure on the USA to relax its restrictions on the export of encryption technology.

The UK, like all other EU countries, maintains export controls on various products and technologies that are considered to have both a civil and military use. The export controls on encryption products, which in the EU fall under the EC Dual-Use Goods Regulation (3381/94), are shared by most other industrialised countries including the US and Japan.

Within the Government's policy on Trusted Third Parties (referred to under 6.38 above) there is a clear recognition, however, that export controls will be simplified, and indeed relaxed, for encryption products that interwork with TTPs. The UK will, therefore, be working with other countries to ensure appropriate relaxations in encryption controls if (or hopefully when) Trusted Third Parties are introduced on an international basis.

The US, in their own continuing policy formation on encryption, have recently announced conditional relaxations on the export controls on certain cryptography products including those incorporating the 56 bit DES algorithm. To qualify for such relaxations companies will need to convince the US authorities of their intention to develop *key-escrow* products. Officials within the DTI are currently considering the import of this policy with colleagues from other Government Departments. The Government will, of course, pay particular attention to the competitive position of UK companies which produce products that might qualify under this proposed relaxation.

We recommend the compilation of an electronic register of bodies giving grants to facilitate the use of Information Technology in the United Kingdom.

The Government is interested in the Committee's suggestion, which stems from their wider interest in the KickStart initiative in the USA. The Government believes however that a simple directory of grant-giving bodies would not be as useful in practice as the targeted information packages which are already available.

To give one example: the ISI for business was specifically created to bring the range of existing and new DTI support programmes under the same umbrella, very much in the way the Lords envisage. The initiative supports Business Links partnerships (and their territorial equivalents) in setting up Local Support Centres, which offer a package of easily-accessible information, practical advice and guidance on new technologies to companies in their area. Altogether we aim to see perhaps 70 Centres established over the life of the initiative.

In accordance with the suggestion in paragraph 6.5, that an ISTF World Wide Web site should be established with links to other key Web pages, it might certainly be possible for information on the ISI and other programmes to be so linked.



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